Title: UNIFORM CHANNEL SPREADING IN A WIRELESS LOCAL AREA NETWORK USING DYNAMIC FREQUENCY SELECTION

## REMARKS

In response to the office action dated 11 April 2008, the applicants request reconsideration of the above-identified application in view of the following remarks. Claims 1, 3-7, 9-13, 16, 17, and 20 are pending in the application, and are rejected. None of the claims are amended herein.

## Rejections of Claims Under §103

The Supreme Court addressed the requirements of rejections of claims under 35 USC § 103 in KSR.<sup>1</sup> The Court in KSR stated that "[t]o facilitate review, this analysis should be made explicit....[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." The Court also stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." The Court in KSR repeated the instruction from Graham<sup>2</sup> to "guard against slipping into the use of hindsight." In 1967 the CCPA stated that "[a] rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art."

Finally, KSR notes that "a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions." 5

Claims 1 and 3-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koohgoli et al. (U.S. Patent 5,276,908, Koohgoli) in view of Frixon (U.S. Patent No. 5,138,456). The applicants respectfully traverse.

Koohgoli relates to dynamic channel allocation and mentions scanning available traffic channels in a wireless communication system with base stations and subscriber terminals. Koohgoli does not show "determining a larger gap between available channels" and "selecting a channel within the larger gap" as is recited in independent claim 1.

<sup>&</sup>lt;sup>1</sup> KSR Int'l, v. Teleflex Inc., 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

<sup>&</sup>lt;sup>2</sup> Graham v. John Deere Co., 148 USPO 459 (1966).

<sup>&</sup>lt;sup>4</sup> In re Warner, 154 USPO 173, 178 (CCPA 1967).

<sup>5</sup> KSR.

Filing Date: July 7, 2003
Title: UNIFORM CHANNEL SPREADING IN A WIRELESS LOCAL AREA NETWORK USING DYNAMIC FREQUENCY SELECTION

Frixon relates to the transmission of video signals between 400 and 800 MHz. Frixon describes a camera that scans the range of frequencies between 400 and 800 MHz and then selects a free channel on which to transmit to a television. The frequency selected is displayed on a display device and a user must adjust a television set to pick up transmissions from the camera. Frixon depends on a human user to tune a television to a frequency selected as a result of a scan. Frixon is very different from Koohgoli, so different that it is non-analogous art. One skilled in the art using common sense would not have looked to Frixon to modify Koohgoli.

In addition, Koohgoli teaches away from the combination proposed in the office action. Koohgoli states that the base station scans available traffic channels, and sends a "subscriber terminal a list of available traffic channels upon which a call would be acceptable." The subscriber terminal scans the channels on the list, and then prioritize its preferences for the base station. Koohgoli states specifically that both the base station and the subscriber terminal must scan the available channels as the channel with the least interference as scanned by the subscriber terminal may not be the channel with the least interference as scanned by the base station. In Koohgoli it is necessary that the base station supply the subscriber terminal with a list of available channels. In contrast, only the camera in Frixon carries out a scan and selects an emission frequency. The television plays no role in selecting the emission frequency in Frixon. One skilled in the art using common sense would not have looked to Frixon to modify Koohgoli because the activity all takes place in the camera, and the selection of the emission frequency is not the result of an interaction between two devices.

Both claims 4 and 5 recite "selecting a larger gap at a higher frequency." Neither Frixon nor Koohgoli show this feature, so, even as combined, Frixon and Koohgoli do not show all of the features recited in claims 4 and 5. The office action on pages 4-5 indicates that features recited in rejected claims 4 and 5 were a matter of design choice. *In re Warner* indicates that "[a] rejection based on section 103 clearly must rest on a factual basis." The rejection of the features of claims 4 and 5 is not founded on a factual basis such as a reference, but rather is supported only by speculation called "design choice" contrary to *In re Warner*. The applicants respectfully request that this rejection be withdrawn.

<sup>6</sup> Koohgoli, column 8, lines 18-29.

Title: UNIFORM CHANNEL SPREADING IN A WIRELESS LOCAL AREA NETWORK USING DYNAMIC FREQUENCY SELECTION

The office action has not identified a factual basis or a rational underpinning that supports a modification of Koohgoli by Frixon, and has instead relied on hindsight reconstruction to reject claims 1 and 3-5. The applicants respectfully submit that a *prima facie* case of obviousness of claims 1 and 3-5 has not been established in the office action, and that claims 1 and 3-5 are in condition for allowance.

Clam 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Koohgoli in view of Frixon and Lopez (U.S. Patent No. 7,177,291 B1). The applicants respectfully traverse.

Claim 6 is dependent on independent claim 1, and recites further features with respect to claim 1. For the reasons stated above with respect to claim 1, the applicants respectfully submit that one skilled in the art using common sense would not have looked to Frixon to modify Koohgoli.

Lopez discusses two local networks N1 and N2 and a new mobile terminal MT5 that is to be integrated into an existing network. If MT5 attempts to communicate with N1 and there is a collision with traffic from N2, MT5 requests a new frequency from N1. MT5 may suggest a channel to N1 after monitoring various channels, but N1 selects a new frequency based on a criteria not described in Lopez. The monitoring of channels by MT5 does not directly lead to a selection of a new channel, and in fact the new channel selection is not described as a result of a scan of available frequencies.

The office action has not shown Lopez to be compatible with Koohgoli in which the base station scans available traffic channels, and sends a "subscriber terminal a list of available traffic channels upon which a call would be acceptable." The subscriber terminal of Koohgoli scans the channels on the list, and then prioritizes its preferences for the base station. Lopez is very different from Koohgoli and one skilled in the art would not have been motivated to modify Koohgoli in view of Lopez.

The office action has not identified a factual basis or a rational underpinning that supports this combination of references, and has instead relied on hindsight reconstruction to reject claim 6. The applicants respectfully submit that a *prima facie* case of obviousness of claim 6 has not been established in the office action, and that claim 6 is in condition for allowance.

Filing Date: July 7, 2003
Title: UNIFORM CHANNEL SPREADING IN A WIRELESS LOCAL AREA NETWORK USING DYNAMIC FREQUENCY SELECTION

Claims 7 and 9-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi et al. (U.S. 7.206.840 B2) in view of Frixon. The applicants respectfully traverse.

Choi relates to dynamic frequency selection and describes "monitoring of channels" which includes "(1) channel measurement by AP; (2) request for channel measurement by AP; and, (3) measurement report by STAs." Choi describes channel measurements by both the AP and the STAs. The AP then "determines a new channel that is used for communication between the AP and the STAs."

Choi does not show "determining a larger gap between available channels" and "selecting a channel within the larger gap" as is recited in independent claim 7.

Frixon relates to the transmission of video signals between 400 and 800 MHz. Frixon describes a camera that scans the range of frequencies between 400 and 800 MHz and then selects a free channel on which to transmit to a television. The frequency selected is displayed on a display device and a user must adjust a television set to pick up transmissions from the camera. Frixon depends on a human user to tune a television to a frequency selected as a result of a scan. Frixon is very different from Choi, so different that it is non-analogous art. One skilled in the art using common sense would not have looked to Frixon to modify Choi.

In addition, Choi teaches away from the combination proposed in the office action. Choi describes that both the AP and the STAs make channel measurements. In contrast, only the camera in Frixon carries out a scan and selects an emission frequency. The television plays no role in selecting the emission frequency in Frixon. One skilled in the art using common sense would not have looked to Frixon to modify Choi because the activity all takes place in the camera, and the selection of the emission frequency is not the result of an interaction between two devices.

Both claims 10 and 11 recite "selecting a larger gap at a higher frequency." Neither Frixon nor Choi show this feature, so, even as combined, Frixon and Choi do not show all of the features recited in claims 10 and 11. The office action on pages 8-9 indicates that features recited in rejected claims 10 and 11 were a matter of design choice. *In re Warner* indicates that "[a] rejection based on section 103 clearly must rest on a factual basis." The rejection of the features of claims 10 and 11 is not founded on a factual basis such as a reference, but rather is

<sup>7</sup> Choi, column 4, lines 20-23.

<sup>8</sup> Choi, column 7, lines 63-65.

supported only by speculation called "design choice" contrary to *In re Warner*. The applicants respectfully request that this rejection be withdrawn.

The office action has not identified a factual basis or a rational underpinning that supports a modification of Choi by Frixon, and has instead relied on hindsight reconstruction to reject claims 7 and 9-11. The applicants respectfully submit that a *prima facie* case of obviousness of claims 7 and 9-11 has not been established in the office action, and that claims 7 and 9-11 are in condition for allowance.

Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi in view of Frixon and Lopez. The applicants respectfully traverse.

One skilled in the are would not be motivated to combine Choi with Frixon for the reasons stated above with respect to claim 7. Lopez was discussed above with respect to claim 6.

The office action has not shown Lopez to be compatible with Choi which describes channel measurements by both an AP and STAs. Lopez is very different from Choi and one skilled in the art would not have been motivated to modify Choi in view of Lopez.

The office action has not identified a factual basis or a rational underpinning that supports this combination of references, and has instead relied on hindsight reconstruction to reject claim 12. The applicants respectfully submit that a *prima facte* case of obviousness of claim 12 has not been established in the office action, and that claim 12 is in condition for allowance.

Claims 13 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi in view of Frixon and Sugar et al. (U.S. Patent No. 7,248,604 B2, Sugar). The applicants respectfully traverse.

Choi relates to dynamic selection of a channel between an access point and a plurality of stations. Sugar relates to a wireless communications network. Neither Choi nor Sugar show "selecting a larger gap at a higher frequency" and "selecting a channel from a channel indicated as available within the larger gap at a higher frequency," of the features recited in independent claim 13.

Frixon relates to the transmission of video signals and describes selecting "an emission frequency located substantially in the middle of the largest interval separating two channels."

Frixon, column 4, lines 38-44. Frixon does not show "selecting a channel from a channel indicated as available within the larger gap at a higher frequency" as is recited in independent claim 13. Therefore, even as combined, Choi, Sugar, and Frixon do not show all of the features recited in claim 13.

As stated above with respect to claims 3 and 5, Frixon only relates to the transmission of video signals between 400 and 800 MHz. Furthermore, Frixon describes a camera that scans the range of frequencies between 400 and 800 MHz and then selects a free channel on which to transmit to a television. The frequency selected is displayed on a display device and a user must adjust a television set to pick up transmissions from the camera. Frixon depends on a human user to tune a television to a frequency selected as a result of a scan. Frixon is very different from both Choi and Sugar, so different that it is non-analogous art. One skilled in the art using common sense would not have looked to Frixon to modify Choi or Sugar.

The office action on pages 12-13 indicated that features recited in rejected claims 13 and 16 were a matter of design choice. *In re Warner* indicates that "[a] rejection based on section 103 clearly must rest on a factual basis." The rejection of the features of claims 13 and 16 is not founded on a factual basis such as a reference, but rather is supported only by speculation called "design choice" contrary to *In re Warner*. The applicants respectfully request that this rejection be withdrawn.

The office action has not identified a factual basis or a rational underpinning that supports this combination of references, and has instead relied on hindsight reconstruction to reject claims 13 and 16. The applicants respectfully submit that a *prima facie* case of obviousness of claims 13 and 16 has not been established in the office action, and that claims 13 and 16 are in condition for allowance.

Claims 17 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi, Frixon, Sugar, and Pope, Jr. et al. (U.S. Patent No. 6,654,616 B1, Pope). The applicants respectfully traverse.

Choi relates to dynamic selection of a channel between an access point and a plurality of stations. Sugar relates to a wireless communications network. Pope relates to a wireless area network. Neither Choi nor Sugar nor Pope show "selecting a larger gap at a higher frequency"

Filing Date: July 7, 2003
Title: UNIFORM CHANNEL SPREADING IN A WIRELESS LOCAL AREA NETWORK USING DYNAMIC FREQUENCY SELECTION

and "selecting a channel from a channel indicated as available within the larger gap at a higher frequency" of the features recited in independent claim 17.

As stated above with respect to claims 13 and 16, Frixon does not show "selecting a channel from a channel indicated as available within the larger gap at a higher frequency" as is recited in independent claim 17. Therefore, even as combined, Choi, Sugar, Pope, and Frixon do not show all of the features recited in claim 17.

As stated above with respect to claims 13 and 16, Frixon is non-analogous art.

The office action on pages 17-18 indicated that features recited in rejected claims 17 and 20 were a matter of design choice. *In re Warner* indicates that "[a] rejection based on section 103 clearly must rest on a factual basis." The rejection of the features of claims 17 and 20 is not founded on a factual basis such as a reference, but rather is supported only by speculation called "design choice" contrary to *In re Warner*. The applicants respectfully request that this rejection be withdrawn.

The office action has not identified a factual basis or a rational underpinning that supports this combination of references, and has instead relied on hindsight reconstruction to reject claims 17 and 20. The applicants respectfully submit that a *prima facie* case of obviousness of claims 17 and 20 has not been established in the office action, and that claims 17 and 20 are in condition for allowance.

Filing Date: July 7, 2003

Title: UNIFORM CHANNEL SPREADING IN A WIRELESS LOCAL AREA NETWORK USING DYNAMIC FREQUENCY SELECTION

## CONCLUSION

The applicants respectfully submit that all of the pending claims are in condition for allowance, and such action is earnestly solicited. The Examiner is invited to telephone the below-signed attorney at 612-373-6973 to discuss any questions which may remain with respect to the present application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. Box 2938 Minneapolis, MN 55402 (612) 373-6973

Date 10 July 2008

Robert E. Mates

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EPS-Web, and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 2231-31450 on this 10<sup>76</sup> aloy 7 fluy, 2008.

Ryan Sounders

Signature